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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/430,267	10/29/1999	JANAKIRAMAN SENTHILNATHAN	99.360	7015

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EXAMINER
WILSON, ROBERT W

ART UNIT	PAPER NUMBER
2661	9

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/430,267	SENTHILNATHAN ET AL.	
	Examiner	Art Unit	
	Robert W Wilson	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 April 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,8-11,15-17 and 19* is/are rejected.

7)☒ Claim(s) *3-7,12-14 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Detailed Action

1.0 The application of JANAKIRAMAN SENTHILNATHAN et al. entitled "METHOD AND APPARATUS FOR SELECTION OF AN ENDPOINT DEVICE IN A POINT TO POINT LINK" which was applied for on 10/29/99 and was amended on 4/21/03. Claims 1-19 are pending.

Drawings

2.0 The drawings were previously objected to by the draftsperson as informal.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.0 Claims 1-2, 8-11, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chuah (U.S. Patent No.: 6,449, 272B1).

Referring to Claim 1, Chuah teaches: A method for determining an tunnel endpoint (Fig 1) in a communication system (Internet or communication system per col 1 line 16), the method comprising the steps of:

receiving a connection request from a client (The PC or client initiates a Config Request per col 3 line 67-col 4 line 2);

responsive to the connection request, query a database for a database entry matching the client using predetermined identifying information, where the matching database entry will include an identifier of a tunnel endpoint (The Serving LAC matches the user's id or client predetermined information in a table or database or in the RADIUS to determine if a tunnel identifier already exists per col 3 line 66-col 6 line 62) ;

responsive to receiving a database reply including the identifier for the tunnel endpoint, establishing a connection for the client to the tunnel endpoint identified in the database reply; and responsive to not receiving a database reply (The Serving LAC establish a connection as col 3 line 67-col 4 line 2 or Figs 2 and 3) ;

establishing a connection for the client to a locally determined tunnel endpoint (Col 3 line 67-col 4 line 2 or Figs 2 and 3 or per col 4 line 43-col 6 line 62),

and updating the database to include a database entry that includes the predetermined identifying information for the client and an identifier for the locally determined tunnel endpoint (If Tid and Cid are not already assigned then they are assigned and the database is updated per col 3 line 667-col 4 line 2 or per col 5 line 33-col 6 line 62).

In Addition:

Where the step or querying a database for entry matching the client includes querying a local database for the matching entry and, if none is found, querying a remote database (The NAS Serving LAC queries a table or database locally and can also query the RADIUS or remote data base per col 4 lines 20-42) as claimed in **Claim 2.**

Further including the steps of: receiving another connection request form the client; responsive to another connection request and using the predetermined identifying information for the client, querying the database for the database entry that includes the predetermined identifying information for the client and the identifier for the locally determined endpoint (It would be obvious to one of ordinary skill in the art at the time of the invention that the PC of Fig 1 could set up a second request which is different from the first request and consequently a different Tid and Cid would be assigned per Fig 1); and

Responsive to the database reply including the identifier for the locally determined endpoint, establish another connection for the client to the locally determined endpoint (It would be obvious to one of ordinary skill in the art at the time of the invention that the PC of Fig 1 could set up a second request which is different from the first request and consequently a different Tid and Cid would be assigned per Fig 1); as claimed in **Claim 8.**

A computer readable medium having stored there instructions for causing a central processing unit to execute the method of claim 1 (It is within the level of one skilled in the art to implement the algorithms of Chuah in hardware logic and software. It would be obvious to one of ordinary skill in the art at the time of the invention to store the programs on a computer readable medium) as claimed in **Claim 9.**

Chuah does not expressly call for: tunnel end point but teaches tunnel id per Figs 1-18

It would be obvious to one of ordinary skill in the art at the time of the invention that the tunnel endpoint is a WAN address which must be assigned in order for the invention of Chuah to work,

Referring to claim 10, Chuah teaches: A network communication system (Internet or communication system per per col 1 line 16);

A database device configured to store data entry, where the data entry is keyed by predetermined client identifying information and includes a tunnel endpoint identifier field, the database device being further configured to receive a database query that includes a client identifying information value, search for a matching data entry that matches the client identifying information value and , if the matching data entry is found, send a database reply that includes the value of the tunnel endpoint identifier field of the matching data entry (Serving LAC has a table or database per Fig 1 which works either with or without a RADIUS per col 4 line 40 or col 3 line 66-col 6 line 62),

Initiator network device (NAS Serving LAC per Fig 1) for receiving a call request from a client (PC per Fig 1) and, responsible thereto, generate a database query (Table query or RADIUS query per col 3 line 67-col 6 line 63) having the client identifying information value (user's id per col 4 line 21) for the client from which the call request is received (Config Request per col 4 line 1-5) , and where the initiator network device (NAS Serving LAC per Fig 1) is further configured, when a database reply corresponding to the database query for the calling client is received, to establish a connection to an endpoint network device corresponding to the tunnel endpoint identifier value included in the database reply and (The NAS Serving LAC determines if a Tid and Cid or endpoint connection per col 3 line 67-col 6 line 63)

When no database reply corresponding to the database query for the calling client is received, the initiator network device is configured to locally select a locally determined tunnel endpoint value and establish a connection for the client to a local network device corresponding to the locally determined tunnel endpoint value (If a tunnel does not already exist per col 4 lines 57-65 then a tunnel id is assigned by the NAS Serving LAC per col 3 line 67-col 6 line 63)

In Addition:

Wherein: the network device (NAS Serving LAC per Fig 1) is further configured to generate a database update (Tid and Cid per col 4 line 26-col 6 line 62) when it establishes a connection for the client (PC per Fig 1) or the network device (NAS Serving LAC per Fig 1) corresponding to the locally determined endpoint value (Tid per col 4 line 26-col 6 line 62 or per Fig 4 and 9),

The database device is further configured (NAS Serving LAC per Fig 1) , responsive to the database update (Tid and Cid per col 4 line 26-col 6 line 62)), to create a database entry having the client identifying information value (Tid and Cid per col 4 line 26-col 6 line 62) for the client

from which the call request is received and the locally determined endpoint value (Tid and Cid per col 4 line 26-col 6 line 62) as claimed in **Claim 11**

Where the client identifying (Cid per Fig 4 or 9) information includes an EDO (It would be obvious to one of ordinary skill in the art at the time of the invention that EDO is a WAN address which must be provided in order for the invention of Chuah to work) and username for the client (It would be obvious to one of ordinary skill in the art at the time of the invention that user name of the client is a MAC address which must be provided in order for the invention of Chuah to work)and the locally determined endpoint value (Tid per Fig 4 or 9) is a network address (IT would be obvious that this must be a WAN address in order for the invention of Chuah to work) configured to route the connection through a network to the network device corresponding to the locally determined endpoint value (Routing as shown via elements 1, 2, and 3 per Fig 1) as claimed in **claim 15.**

The system further including another network device for receiving another call request from the client and responsive thereto, generate another database query having the client identifying information value for the client from which the another call request is received, and where the another network device is further configured, when a database reply corresponding to another database query for the calling client is received, to establish another connection to the network device corresponding to the endpoint identifier value included in the database reply corresponding to the another database query (The Radius is another network device in Addition of the NAS Serving LAC that could receive requests from the PC or client per Fig 1) as claimed in **Claim 16**

Chuah does not expressly call for: tunnel end point but teaches tunnel id per Figs 1-18

It would be obvious to one of ordinary skill in the art at the time of the invention that the tunnel endpoint is a WAN address which must be assigned in order for the invention of Chuah to work,

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.0 Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chuah (U.S. Patent No.: 6,449, 272B1) further in view Towsley et al entitled "Layer Two Tunneling Protocol (L2TP) Network Working Group Request for Comment 2661 dated Aug 1999 which is an IDS document of record.

Referring to Claim 17, Chuah teaches a network system for transmitting and receiving packets across a network (Fig 1), the network device comprising;

A database device (Serving LAC per col 4 line 2 or Fig 1) coupled to the network (110, 120, 160, and 130 per Fig 1) and configured to receive a first predetermined message (Config Request per col 4 line 1) having a client identifier field (user's id per col 4 line 21), responsive thereto, search for a database entry having a key field with a value matching a value of the client identifiers field (Serving LAC checks table or database to see if a tunnel already exists per col 4 lines 40-67),

when a corresponding database entry is found, generates second predetermined type of message having the client identifier field that includes the value of the key field of the database entry and a tunnel endpoint field (Fig 4 shows assignment of Cid and Tid) and where the database is configured to receive a third predetermined type of message having the client identifier and tunnel endpoint address field of the database entry (Fig 4) and responsive thereto,

store a database entry corresponding to a value in the client identifier field of the third predetermined type of message and having a value of the tunnel endpoint field of the third predetermined type of message in the endpoint address field of the database entry (The Tid and Cid are stored in the Table or Database per per col 4 lines 25-55. It would be obvious to one of ordinary skill in the art at the time of the invention that the tunnel endpoint address or WAN address must also be stored in order for the invention of Chuah to work)

a first network device (115 per Fig 1) coupled to the network (110, 120, 160, and 130 per Fig 1) and configured to receive a first call request from a client device (Config Request is received from the PC by 115 per Fig 1) and responsive thereto, locally select a second network device (115 per Fig 1) coupled to the network (110, 120, 160, and 130 per Fig 1) and establish a first connection for the client device from the first network device to the second network device where the first network device (Elements 1, 2, and 3 show the connections per Fig 1) is also configured to generate the third predetermined type of message having a value corresponding to the client device in the client identifier field and an address value corresponding to the second network device in the tunnel endpoint field (Tid and Cid per col 4 line 43 or Fig 4or Fig 9 or third predetermined type of message. It would be obvious to one of ordinary skill in the art at the time of the invention that the WAN address value of the client and the endpoint in addition to the Tid and Cid must be provided in order for the invention of Chuah to function).

A third network device (135 per Fig 1) coupled to the network (110, 120, 160, and 130 per Fig 1) and configured to receive a second call request (elements 1, 2, and 3 per Fig 1) from the client device (105 per Fig 1) and, responsive thereto, generate the first predetermined type of message having the value corresponding to the client device in the client identifier field (Tid and Cid per Fig 4 or Fig 9), and where the third network device (135 per Fig 1) is configured to receive the second predetermined type of message having a client identifier field corresponding to the client device (Tid and Cid per Fig 4 or 9) and using the value of the tunnel endpoint field of the second predetermined type of message (Tid and Cid per Fig 4 or 9), establish a second connection (element 2 or second connection per Fig 1) to the second network device (155 per Fig 1 or second network device)

In Addition:

Where: a first network device 115 per Fig 1) is coupled to the third network device (135 per Fig 1 or third network device) and the first network device is further configured to local store a local database entry (table per col 4 lines 43-56) having a key field containing the value corresponding to the client device (Cid per col 4 lines 43-56) and an endpoint field containing the address value of the second network device (Anchor LAC IP address per col 4 line 55)

The third network device is further configured to query the first network device for the local database entry in response to receiving the second call request from the client device (105 can make multiple call requests because unique Cid and Tid can be assigned as shown in Fig 4 and 9 respectively. 135 per Fig 1 or third device can make queries through 155 per Fig 1 to 115 per Fig 1 as shown in Figs 4 and 9 respectively) as claimed in **Claim 19.**

Chuah does not expressly call for: predetermined period of time but teaches L2TP per col 1 line 36 or col 3 lines 22-35)

Towsley teaches: predetermined period of time (L2TP will time out after a predetermined period of time per Para 5.5 pgs 43-44)

It would be obvious to one of ordinary skill in the art at the time of the invention to add the time out associated with a predetermined time of Towsley which a part of an L2TP standard to the network of Chuah which utilizes L2TP for tunneling in order to build a network that is standards compliant.

Claim Objections

5.0 Claims 3-7, 12-14, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The closest prior art is Chuah (U.S. Patent no.: 6,449, 272B1) and Verma (U.S. Patent No.: 6,522,880B1). Chuah (U.S. Patent no.: 6,449, 272B1) which teaches a system that assigns tunnel identifier but does not teach that the database performs multicasting nor does it teach that the third preassigned message is a database update message. Verma was not used because the date does not precede the application.

The closest prior art does not teach either singularly or in combination anticipate or render the following claim limitation obvious:

"querying a remote database further includes multicasting a message having a predetermined message identifier" as claimed in **Claim 3**.

"sending a multicast message having a predetermined message type" as claimed in **Claim 12 and 14**.

" third predetermined type of message is a database update message" as claimed in **Claim 18**.

In Addition:

Claims 4-7 are dependent upon Claim 3 and consequently would also be allowable if Claim 3 was amended.

Claims 13 is dependent upon claim 12 and would also be allowable if Claim 12 was amended.

Response to Amendment

6.0 The examiner respectfully disagrees with the applicant argument that the references fail to show " assignment of a tunnel identifier". The reference Chuah (U.S. Patent No.: 6,449, 272) teaches assignment of a tunnel identifier per Figs 4 or 9 or per col 3 line 67-col 6 line 62.

Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

6.0 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W Wilson whose telephone number is 703/305-4102. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Robert W. Wilson

Robert W Wilson
Examiner
Art Unit 2661

RWW
May 27, 2003

DAVID TON
PRIMARY EXAMINER